

RN02138

Serial number: 10/533,212

AMENDMENT

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-21 (Canceled)

22. (Currently amended) A process for producing carboxylic acids by oxidation of a hydrocarbon with oxygen or a gas containing oxygen with the formation of esters in a reaction medium, in the presence of a monocarboxylic acid-based solvent and of an oxidation catalyst, comprising the steps of hydrolysing the esters formed as byproducts by carrying out a treatment of the reaction medium before extraction of the carboxylic acids or a treatment of the organic phase derived from the reaction medium after extraction of the carboxylic acids formed, wherein said hydrolysis is carried out by addition of a strong acid to the medium to be treated.

23. (Currently amended) A process according to Claim 22, wherein the hydrolysis step is carried out by addition to the medium to be treated of a strong acid and maintenance of said medium is maintained at a temperature of greater than 50°C, optionally of between 80°C and 200°C.

3 24. (Currently amended) A process according to Claim 23, wherein the strong acid has a pKa of less than or equal to 2.

4 25. (Previously presented) A process according to Claim 24, wherein the strong acid is carried on or attached to an inert material such as a resin.

5 26. (Previously presented) A process according to claim 25, wherein the resin is a sulphonic acid resin.

6 27. (Previously presented) A process according to claim 22, wherein the extraction of the carboxylic acids produced from the reaction medium is carried out by means of separation by settling out.

7 28. (Previously presented) A process according to claim 22, wherein the extraction of the carboxylic acids produced from the reaction medium is obtained by liquid/liquid extraction.

8 29. (Previously presented) A process according to claim 22, wherein the organic phase obtained after extraction of the carboxylic acids and hydrolysis of the esters is recycled at the oxidation step.

9 30. (Previously presented) A process according to claim 22, wherein the organic phase recovered after separation of the diacids formed is subjected to distillation of the compounds having a boiling point less than or equal to that of the alcohol formed during the oxidation step, before the hydrolysis step.

10 31. (Previously presented) A process according to claim 22, wherein the organic phase recovered after separation of the diacids formed is subjected to distillation of the compounds having a boiling point less than or equal to that of the acid solvent used in the oxidation step, before the hydrolysis step.

11 32. (Previously presented) A process according to claim 22, wherein the acids formed during the hydrolysis step are extracted from the medium with a solvent for said acids.

12 33. (Previously presented) A process according to claim ~~32~~¹¹, wherein the oxidation solvent present in the hydrolysis medium is extracted and purified before recycling at the oxidation step.

13 34. (Previously presented) A process according to claim ~~32~~¹¹, wherein the acids recovered from the hydrolysis medium are mixed with the diacids extracted from the oxidation medium or in the oxidation medium before extraction of the diacids.

14 35. (Previously presented) A process according to claim ~~32~~¹¹, wherein the hydrocarbon is a cycloalkane.

15 36. (Previously presented) A process according to claim ~~35~~¹⁴, wherein the cycloalkane is cyclohexane or cyclododecane.

16 37. (Previously presented) A process according to claim ~~32~~¹¹, wherein the solvent is a monocarboxylic acid having from 1 to 6 carbon atoms, or an acid lipophilic in nature, having from 7 to 20 carbon atoms.

17 38. (Previously presented) A process according to claim ~~37~~¹⁶, wherein the lipophilic acid is hexanoic acid, heptanoic acid, octanoic acid, 2-ethylhexanoic acid, nonanoic acid, decanoic acid, undecanoic acid, dodecanoic acid, stearic acid (octadecanoic acid) and their permethylated derivatives, 2-octadecylsuccinic acid, 3,5-ditert-butylbenzoic acid, 4-tert-butylbenzoic acid, 4-octylbenzoic acid, tert-butyl hydrogen orthophthalate, alkynaphthenic acid, alkylanthracenic acid, a substituted derivative of phthalic acids, or a fatty diacid.

18 39. (Previously presented) A process according to claim ~~38~~¹⁷, wherein the lipophilic

RN02138

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AMENDMENT

acid is a dimer fatty acid, a naphthenic acid substituted with tert-butyl groups, or an anthracenic acid substituted with tert-butyl groups.

¹⁹ ~~40.~~ (Previously presented) A process according to claim ¹⁹ ~~22~~, wherein the catalyst is a transition metal.

²⁰ ~~41.~~ (Previously presented) A process according to claim ¹⁹ ~~40~~, wherein the catalyst is based on manganese in combination with a co-catalyst which is cobalt, zirconium, cerium, hafnium or iron.

²¹ ~~42.~~ (Previously presented) A process according to claim ¹⁹ ~~22~~, wherein the polycarboxylic acid produced is adipic acid, succinic acid, glutaric acid, dodecanedioic acid or a mixture thereof.